

## REMARKS

Applicant respectfully requests the Examiner's reconsideration of the present application. Claims 2 and 7 have been canceled. Claims 3-5 and 8-10 have been amended. No new claims have been added. Therefore, claims 3-5 and 8-14 are presented for examination.

### **Claim Amendments**

Applicant has amended the claims to more particularly point out what Applicant regards as their invention. No new matter has been added as a result of these amendments.

### **Information Disclosure Statement**

The Examiner has indicated that the Information Disclosure Statement (IDS) filed November 28, 2003, failed to comply with the provisions of 37 C.F.R. §1.97 and MPEP §609 because of missing or inaccurate information in the listing. Applicant respectfully submits herewith an IDS to address the inaccuracies, and requests that the Examiner consider the information listed therein as to its merits. The IDS submitted herewith also includes references in addition to those previously submitted on November 28, 2003, and Applicant respectfully requests the Examiner to consider them as to their merits and mark them as being so considered. Applicant further requests that the Examiner mark as considered all other references in the IDS submitted on November 28, 2003.

### **Drawings**

The drawings stand objected to by the Draftsperson, and the Examiner has indicated that the objection to the drawings will not be held in abeyance. Accordingly, replacement drawings are submitted herewith, and Applicant respectfully requests the withdrawal of the objections to the drawings.

### **Specification**

The Examiner has objected to the title of the invention as not being descriptive of the claimed invention. Applicant respectfully submits that the present title, "A Method And Apparatus Of Using A Neural Network To Train A Neural Network," closely follows the preamble of each independent claim, and thus is clearly descriptive of the invention as claimed. Furthermore, the title complies with the requirement of 37 C.F.R. § 1.72 that the title "must be as short and specific as possible." Accordingly, Applicant requests that the objection to the title be withdrawn.

### **Rejections Under 35 U.S.C. §101**

Claims 2 and 4 stand rejected under 35 U.S.C. §101 because the claimed invention is not supported by either a credible asserted utility or a well established utility. The Examiner has suggested that since the claims are not claimed to be practiced on a computer, they are not limited to practical application in the technological arts.

Applicant notes that although claim 2 has been canceled, its limitations are incorporated in amended independent claim 3, which originally depended from claim 2. Applicant has amended claim 3 to recite a method for execution by a processor. Applicant submits that a method for execution by a processor is within the technological arts.

Applicant has amended independent claim 4 to be drawn to a computerized system. Applicant submits that a computerized system is within the technological arts.

Applicant respectfully reminds the Examiner that "a specification which contains a disclosure of utility which corresponds in scope to the subject matter sought to be patented must be taken as sufficient to satisfy the utility requirement of § 101 for the entire claimed subject matter unless there is a reason for one skilled in the art to question the objective truth of the statement of utility or its scope." (MPEP 2107.02). Applicant respectfully submits that the usefulness of neural networks in general is well understood. Furthermore, the ability to train a neural network using a neural network, as opposed to human training, is also well understood. For example, as discussed in

Applicant's Specification, among other uses, the claimed invention may allow single pass training of a neural network once the geometry of the training network is specified. (Specification, p. 30, lines 11-15).

Accordingly, Applicant respectfully requests that the rejection of the claims under 35 U.S.C. §101 be withdrawn.

### **Rejections Under 35 U.S.C. §112**

#### ***35 U.S.C. §112, First Paragraph***

Claims 2 and 4 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The Examiner has cited MPEP 2164.07(1)(a) for the proposition that based on the 35 U.S.C. §101 rejections above, Applicant's claimed invention of claims 2 and 4 is "useless," and thus Applicant's specification could not have taught how to use the invention, thereby triggering the present enablement rejection under 35 U.S.C. §112, first paragraph. Applicant submits that based on the amendments to claims 3 and 4, and the discussion above with respect to the rejection under 35 U.S.C. §101, the claimed invention has utility. Applicant further submits that Applicant's specification provides enablement of the claimed invention. For example, at page 29, line 22 to page 30, line 22, Applicant's Specification provides a description of a flow diagram for a method of using a neural network to train a neural network. The described method may be implemented on a machine such as the computer system described with respect to Figure 6. Accordingly, Applicant requests that the rejection of the claims under 35 U.S.C. §112, first paragraph, be withdrawn.

#### ***35 U.S.C. §112, Second Paragraph***

Claim 7 stands rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. The Examiner has asserted that the omitted structural cooperative relationship is the connection of the Radon transform generator to the feeder. Applicant notes that claim 7 has been canceled, and that its limitations are incorporated in amended independent

claim 8, which originally depended from claim 7. Applicant respectfully submits that claim 8 has been amended to claim the Radon transform generator coupled to a feeder. Accordingly, Applicant requests the withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

### **Rejections Under 35 U.S.C. §103(a)**

#### *Elsherif in view of Boone and Samarasekera*

Claims 2, 4, 5 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over "On Modifying the Weights in a Modular Recurrent Connectionist System," by Elsherif et al. ("Elsherif"), in view of Boone et al., U.S. Patent No. 5,953,452 ("Boone"), and Samarasekera et al., U.S. Patent No. 5,960,055 ("Samarasekera"). Applicant respectfully submits that the present claims are patentable over the Examiner's recited combination.

Applicant has canceled claims 2 and 7. Accordingly, the Examiner's rejection of these claims is moot. As amended, independent claims 4 and 5 each recite that the first neural network and the second neural network are dual to each other. The Examiner has admitted that the combination of Elsherif, Boone and Samarasekera does not teach or suggest this limitation. (Office Action, p.11-13). Accordingly, Applicant requests that the rejection of claims 4 and 5 over the combination be withdrawn.

#### *Elsherif in view of Boone, Samarasekera and Rising*

Claims 3 and 8-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Elsherif in view of Boone, Samarasekera, and "Inversion Processes in the Human Visual System," by Rising ("Rising"). Applicant respectfully submits that the present claims are patentable over the Examiner's recited combination.

Applicant respectfully submits that the Rising reference, "Inversion Processes in the Human Visual System," is not a proper reference under any section of 35 U.S.C. §103 or 35 U.S.C. §102. The Rising reference was published in the Proceedings of the SPIE, Volume 3959 in June, 2000. The Table of Contents of the Proceedings is submitted herewith. The TOC lists the Rising reference at page 400.

The present application has a filing date of January 22, 2001, and claims the benefit of U.S. Provisional Patent Application 60/178,060, which was filed January 24, 2000. The Provisional Application is based on the text of the Rising Reference as it was subsequently published, and is Applicant's own work. Accordingly, since the Rising reference was published after Applicant's effective filing date of January 24, 2000, it cannot properly be used to reject the present claims.

Independent claims 3, 4, 5 and 8, as amended, each recite that a first neural network and a second neural network are dual to each other. The Examiner has admitted that the combination of Elsherif, Boone and Samarasekera does not teach or suggest the limitation that a first neural network and a second neural network are dual to each other. (Office Action, p.11-13). Instead, the Examiner has relied on the Rising reference to provide this missing element and the motivation to do so. However, as discussed above, the Rising reference is not prior art. Since the remaining references admittedly do not teach or suggest the missing element, the claims are not obvious over the recited combination. Applicant further notes that independent claims 4 and 5, as amended, include the limitation that a first neural network and a second neural network are dual to each other. Accordingly, Applicant respectfully requests the withdrawal of the rejections of independent claims 3, 4, 5 and 8, and claims 9-14 that depend from them, under 35 U.S.C. §103(a).

### Conclusion

Applicant respectfully submits that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome and the pending claims are in condition for allowance.

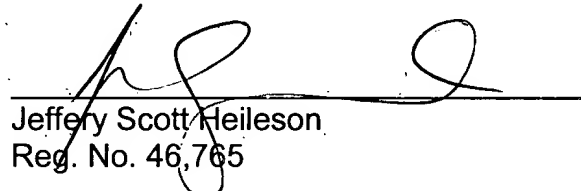
If the Examiner determines the prompt allowance of the claims could be facilitated by a telephone conference, the Examiner is invited to contact Scott Heilesen at (408) 720-8300.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: 3/22, 2004

  
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## Table of Contents

### PUBLICATIONS

Proceedings of SPIE Volume: 3959 [Order this volume](#)

### Pupillary responses to chromatic stimulus

Editor(s): Suaste-Gomez, Ernesto; Rodriguez Guzman, M. C. Ma. Dolores A.; Druzgalski, Christopher

Published: 6/2000

#### Table of Contents [\[Show Abstracts\]](#)

To view an abstract for an individual paper or place a paper order click the paper title

- 697 [Shape perception in different settings](#)  
van Doorn, Andrea J.
- 689 [Color Deducto: playing games to learn about color](#)  
Orwant, Jon; Bender, Walter R.
- 680 [Response of the human pupil to geometrically changed light stimuli](#)  
Kessler, Wolfgang
- 669 [Segmentation of stereo terrain images](#)  
George, Debra A.; Privitera, Claudio M.; Blackmon, Theodore T.; Zbinden, Eric; Stark, Lawrence W.
- 659 [Near-Gabor filter banks for feature detection and curvature estimation](#)  
Purves, Stephen J.; Day, Satnam S.
- 644 [Scanpath-based model for visual tracking of telerobots](#)  
Ho, Yeuk F.; Stark, Lawrence W.
- 634 [Clustering algorithms to obtain regions of interest: a comparative study](#)  
Privitera, Claudio M.; Krishnan, Nikhil; Stark, Lawrence W.
- 625 [Adaptive hierarchical-filtering technique for high-quality magazine image reproduction](#)  
Shu, Joseph S.; Lin, Tsung Nan; Bhattacharjya, Anoop K.; Shiozaki, Tadashi
- 613 [Evaluation of green noise masks for electrophotographic halftoning](#)  
Cooper, Brian E.; Lau, Daniel L.
- 604 [Mosquito noise in MPEG-compressed video: test patterns and metrics](#)  
Fenimore, Charles P.; Libert, John M.; Roitman, Peter
- 595 [Frequency and spatial pooling of visual differences for still image quality assessment](#)  
Le Callet, Patrick; Saadane, Abdelhakim; Barba, Dominique
- 584 [Fractal coding of wavelet image based on human vision contrast-masking effect](#)  
Wei, Hai; Shen, Lansun
- 566 [Portable eyetracking: a study of natural eye movements](#)  
Pelz, Jeff B.; Canosa, Roxanne L.; Kucharczyk, Diane; Babcock, Jason S.; Silver, Amy; Konno, Daisei
- 559 [Learning theoretic approach to differential and perceptual geometry: I. Curvature and torsion are the independent components of space curves](#)

- Assadi, Amir H.; Eghbalnia, Hamid
- 548 Visual conspicuity of objects in complex scenes  
Boersema, Theo; Zwaga, Harm J.
- 540 Broadcasting presence: immersive television  
Harrison, David; Lodge, Nicholas
- 530 Focus group exploration of presence through advanced broadcast services  
Freeman, Jonathan; Avons, Steve E.
- 520 Presence: concept, determinants, and measurement  
Ijsselstein, Wijnand A.; de Ridder, Huib; Freeman, Jonathan; Avons, Steve E.
- 506 See how they turn: false depth and motion in Hughes's reverspectives  
Papathomas, Thomas V.
- 498 Crossing boundaries: imaging innovations in art and science  
Ione, Amy
- 492 Perspective as a geometric tool that launched the Renaissance  
Tyler, Christopher W.
- 480 Landmark-based robot navigation enhanced with color interest operators  
Jagannathan, Hemanth; Narayana Bhaskar, P.
- 468 Automatic control of a robot camera for broadcasting and subjective evaluation and analysis of reproduced images  
Kato, Daiichiro; Ishikawa, Akio; Tsuda, Takao; Shimoda, Shigeru; Fukushima, Hiroshi
- 458 Usability evaluation of remote controllers for digital television receivers  
Komine, Kazuteru; Hiruma, Nobuyuki; Ishihara, Tatsuya; Makino, Eiji; Tsuda, Takao; Ito, Takayuki; Isono, Haruo
- 451 Spatial summation of face information  
Tyler, Christopher W.; Chen, Chien-Chung
- 443 Moving to continuous facial expression space using the MPEG-4 facial definition parameter (FDP) set  
Karpouzis, Kostas; Tsapatsoulis, Nicolas; Kollias, Stefanos D.
- 434 Ground truth for training and evaluation of automatic main subject detection  
Etz, Stephen P.; Luo, Jiebo
- 423 Applying perceptually based metrics to textural image retrieval methods  
Payne, Janet S.; Hepplewhite, Lee; Stonham, T. John
- 411 Color constant texture segmentation and retrieval  
Gevers, Theo; Vreman, Peter; van de Weijer, Joost
- 400 Inversion processes in the human visual system  
Rising, Hawley K.
- 391 Effects of stereographic viewing on shape understanding  
Browse, Roger A.; Rodger, James C.; Drewell, Lisa Y.
- 384 Shape similarity and simplification  
Forte, Peter
- 372 Perceptual issues in substituting texture for geometry  
Rushmeier, Holly E.; Rogowitz, Bernice E.; Piatko, Christine
- 366 Visualization technique for improved situation awareness  
Walrath, James D.; Winkler, Robert P.; Emmerman, Philip J.; Hoffmann, Christoph M.; Kim, Young Jun
- 356 Computing color categories  
Yendrikhovskij, Sergej N.
- 345 Quantization of color spaces and processing of color images by fibonacci lattices  
Mojsilovic, Aleksandra; Soljanin, Emina
- 336 Vision-based strategy to improve the color misregistration of image capturing devices  
Feng, Xiaofan; Daly, Scott J.
- 323 Building perceptual color maps for visualizing interval data  
Kalvin, Alan D.; Rogowitz, Bernice E.; Pelah, Adar; Cohen, Aron
- 314 Vision systems for the inspection of resistance welding joints  
Hildebrand, Lars; Fathi, Madjid
- 302 Color group selection for computer interfaces  
Lyons, Paul; Moretti, Giovanni; Wilson, Mark



- 290 Visual recognition of complex medical lesions using 2D shape  
Chodorowski, Artur; Gustavsson, Tomas; Mattsson, Ulf
- 281 Medical image perception: evaluating the role of experience  
Krupinski, Elizabeth A.
- 270 Lessons from image perception studies for the design of medical imaging systems  
Wilson, David L.; Jabri, Kadri N.; Manjeshwar, Ravindra M.; Srinivas, Yogesh; Salem, Kyle A.
- 254 Symbolic binding  
Stark, Lawrence W.; Yang, Huiyang; Azzariti, Michela
- 243 Calculating the lightness of areas in a single plane  
McCann, John J.
- 234 Sensitivity to auditory-visual asynchrony and to jitter in auditory-visual timing  
van de Par, Steven; Kohlrausch, Armin
- 222 Intensity JND comes from Poisson neural noise: implications for image coding  
Allen, Jont B.
- 211 Masking effects in the quality assessment of coded images  
Bekkat, Nachida; Saadane, Abdelhakim; Barba, Dominique
- 200 Wavelet coefficient quantization to produce equivalent visual distortions in complex stimuli  
Hemami, Sheila S.; Ramos, Marcia G.
- 188 Image-compression-related contrast-masking measurements  
Nadenau, Marcus J.; Reichel, Julien
- 176 Detection of distortion in small moving images compared to the predictions of spatial-temporal model  
Brunnstroem, Kjell E.; Schenkman, Bo N.; Ahumada, Albert J.
- 168 Perceptually adapted MPEG video encoding  
Bordes, Philippe; Guillotel, Philippe
- 160 Toward developing a unit of measure and scale of digital video quality: IEEE Broadcast Technology Society Subcommittee on Video Compression Measurements  
Libert, John M.; Stanger, Leon; Watson, Andrew B.; Rohaly, Ann M.
- 152 Modelfest: principal component analysis reveals underlying channel structure  
Chen, Chien-Chung; Tyler, Christopher W.
- 140 Modelfest: year one results and plans for future years  
Carney, Thom; Tyler, Christopher W.; Watson, Andrew B.; Makous, Walter; Beutter, Brent; Chen, Chien-Chung; Norcia, Anthony M.; Klein, Stanley A.
- 129 Video quality experts group: the quest for valid objective methods  
Corriveau, Philip J.; Webster, Arthur A.; Rohaly, Ann M.; Libert, John M.
- 122 Overview of standardization activities related to digital television  
Fibush, David K.
- 111 Evaluation of image appeal in consumer photography  
Savakis, Andreas E.; Etz, Stephen P.; Loui, Alexander C.
- 99 Detectability and annoyance value of MPEG-2 artifacts inserted in uncompressed video sequences  
Moore, Michael S.; Foley, John M.; Mitra, Sanjit K.
- 88 Comparison of video compression evaluation metrics for military applications  
Leachtenauer, Jon C.
- 78 Information processing approach to image quality  
Janssen, T. J.; Blommaert, Frans J.
- 68 Percentage scaling: a new method for evaluating multiply impaired images  
de Ridder, Huib; Willemsen, Martijn C.
- 56 Univariant assessment of the visual quality of images  
Jung, Mathieu; Leger, Dominique
- 45 Influence of processing method, bit rate, and scene content on perceived and predicted image quality  
Meesters, Lydia; Martens, Jean-Bernard
- 37 Quality metric design: a closer look  
Winkler, Stefan
- 28 Resolution and bit depth: how much is enough?

Klassen, R. Victor; Janamanchi, Kalpana

16 **Perceived lightness difference with regard to spatial frequency and amplitude modulation**

Wang, Muge; Parker, Kevin J.; Spaulding, Kevin E.; Yu, Qing; Miller, Rodney L.

2 **Directing the mental eye in pictorial perception**

Koenderink, Jan J.; van Doorn, Andrea J.; Kappers, Astrid M.; Todd, James T.

**Human Vision and Electronic Imaging V**

Rogowitz, Bernice E.; Pappas, Thrasyvoulos N.

---

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